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TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
UNIVERSITY FARM ST. PAUL, MINNESOTA

U.S. DEPARTMENT OF AGRICULTURE

Do Young Second-Growth Northern Hardwoods Need Care?

The success of stand improvement work in young stands of conifers has been so obvious that lately efforts have been made to extend this silvicultural practice to young stands of northern hardwoods. Unfortunately, there has existed almost no experimental work which would indicate what results might be expected. However, the results of the 5-year remeasurements of several types and degrees of cultural work in 10- to 20-year-old northern hardwoods at the Upper Peninsula Experimental Forest have recently become available and it is possible to see what this type of work may be expected to accomplish.

Two main lines of attack were tried. One was to remove the scattered "wolf" trees, remnants of the original stand, either by cutting or girdling. This appears to be a desirable operation.

The second treatment was an attempt to release the better individuals in the young reproduction. Several methods were tried, but the conclusions reached were similar for all.

When sugar maple and yellow birch, the two most important species in this locality, were released from competition within a radius of more than 3 feet, they responded by putting out many new branches along the entire trunk, thus producing wider and denser crowns at the expense of height growth.

Exposed trees were often sunscalded along the west and south side of the bole.

Small red maples when cut off sprouted profusely and in the heavier degrees of release the stocking of this species actually increased after cutting operations.

Inferior species such as willow, aspen, and fire cherry, which are choked out in the well-stocked stand, were encouraged by release cutting.

Individual release of crop trees has been suggested as a method to apply to young hardwood stands. Work at the Upper Peninsula Station indicates that the stand should be older than 10 or 20 years to permit the selection of crop trees, since the future of such young trees is most difficult to predict.

All of the work to date indicates that cultural work in young second-growth hardwoods (except for the removal of "wolf" trees) is of doubtful desirability and that such stands should be permitted to develop in dense, fully stocked condition until the trees are large enough to be merchantable for cordwood. Light selection cuttings would then tend to develop the all-age selection forest.

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